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## FISCAL IMPACT REPORT

ORIGINAL DATE 1/29/2007

SPONSOR HEC LAST UPDATED \_\_\_\_\_ HB 116/HECS

SHORT TITLE UNM In National LambdaRail Network SB \_\_\_\_\_

ANALYST A. Sánchez

### APPROPRIATION (dollars in thousands)

Appropriation		Recurring or Non-Rec	Fund Affected
FY07	FY08		
	\$2,000.0	Recurring	General Fund

(Parenthesis ( ) Indicate Expenditure Decreases)

Duplicates, Relates to, Conflicts with, Companion to  
 Duplicates Governor's recommendation in the General Appropriations Act, Section 6.

### SOURCES OF INFORMATION

LFC Files  
 General Services Department (GSD)  
 University of New Mexico (UNM)  
 Higher Education Department (HED)  
 Office of the Chief Information Officer (OCIO)

### SUMMARY

#### Synopsis of Bill

House Education Committee Substitute for House Bill 116 appropriates \$2million from the general fund to the board of regents of the University of New Mexico for the purpose of implementing a dual fiber optic network infrastructure at the University of New Mexico related to the national LambdaRail (NLR) project for expenditure during fiscal years 2008 and 2009 in equal amount.

### FISCAL IMPLICATIONS

The appropriation contained in this bill is a recurring expense to the general fund of \$1 million per year beginning in fiscal year 2009. Any unexpended or unencumbered balance remaining at the end of fiscal year 2009 shall revert to the general fund.

According to HED, the bill duplicates UNM's base expansion.

According to LFC files, LambdaRail is a consortium of 15 members. Each has committed to pay \$5 million over five years to be a member. To date, New Mexico has contributed \$4 million: \$3 million from the general fund and \$1 million from the universities (UNM, New Mexico Tech and NMSU).

A January 20, 2007 Albuquerque Journal article reported that UNM was able to use the high-speed link to download an animated film. LambdaRail was scheduled to be operational the summer of 2005. No other entity in New Mexico has derived any benefit from LambdaRail because it is not available to them. The Journal also reports that the consortium is up to 20 universities.

Last year UNM proposed to create a non-profit corporation to charge entities for use of LambdaRail. The state would also be charged for using LambdaRail even though it would be the major contributor. This year UNM did not submit a response to the fiscal impact report so it is not known how UNM will continue to operate LambdaRail. This year's response from UNM indicates that cost recovery will be accomplished through private and public sector fees and that those fees will sustain the network over time. It does give a definite time for becoming self sustaining.

It appears that K-12 and the state would not be able to use LambdaRail unless the network traffic deals with research. There is one access point in New Mexico – Albuquerque; and one access point in El Paso, Texas from which to access LambdaRail. There will be no other access points, all traffic will have to go through Albuquerque. The only way the other research universities will be able to access LambdaRail is through the Rio Grande fiber which is costing New Mexico State (NMSU), New Mexico Institute of Mining and Technology (NMIMT) and GSD \$2.5 million to lease fiber optic lines from Las Cruces to Albuquerque with an option to extend the lines to Raton and for equipment. This fiber optic line is not yet available so none of these universities have access.

The project may duplicate the Rio Grande Fiber project, a consortium of NMSU, NM Tech and GSD, a subproject of Wire New Mexico, and of the fiber ring GSD has already designed and is in the process of installing. Rio Grande fiber leases fiber from Level 3 who leases it from Qwest long distance. NLR will also lease fiber from Level 3, but it is located on the opposite side of the railroad tracks.

According to the HED, the Governor and legislature in 2004 recognized the need for high speed communications by funding the first year of New Mexico's participation in NLR. This \$1 million appropriation was the first of five yearly payments that would allow New Mexico to plug into this national optical network. The subscription payments over the last four years were four of the five payments, or \$5 million. UNM is the only New Mexico NLR member.

According to LFC files, in 2005, no general fund was appropriated so UNM used \$400 thousand of its internal funds, and NMSU and NMIMT each used \$300 thousand toward the second year membership fee. Additionally, the \$1 million annual membership fee is a perpetual fee that will have to be paid somehow.

**SIGNIFICANT ISSUES**

UNM committed the state to pay \$5 million in membership fees before it had received any appropriation and without having the necessary resources to meet its obligation. According to HED, if this bill is not enacted, UNM will have to seek other funding sources.

Neither UNM nor HED submitted a business case for analysis and recommendation. Moreover, it is unclear how the appropriation or proposed infrastructure is in line with the State's IT Strategic plan and how the infrastructure will merge with the GSD existing and future infrastructure. UNM does state in its response that LambdaRail does support “enhancing delivery of services to constituents and supporting economic development.” And that indirectly it supports other strategies in the “IT Strategic Roadmap”, but does not state how.

According to the HED, NLR will enable New Mexico’s research institutions to more effectively access needed information, communicate with each other and be a part of the global research community. Vital links to the private sector that are an integral component of many research efforts will also be created. The current statewide collaborative effort to acquire fiber up and down the Rio Grande corridor will then allow high speed connection to NMIMT, NMSU and the Santa Fe metropolitan area. Continued participation in the NLR will be a direct and relatively immediate benefit to all the state’s research efforts, as well as provide a networking platform which will help grow bandwidth intensive industries, especially film and media. Applications such as Border Monitoring, Large Arrays, Digital Film and Tele-Medicine can also use this technology to each have their own network across the same fiber pair.

According to information on file at the LFC, NLR is a major initiative of United States research universities and private sector technology companies to provide a national scale infrastructure for research and experimentation in networking technologies and applications. It appears that this funding request will provide New Mexico research institutions (UNM, NMSU, NMIMT) access to collaborate with research entities in the United States through UNM.

**CONFLICT, DUPLICATION, COMPANIONSHIP, RELATIONSHIP**

Governor’s Executive Budget Recommendations include \$1 million from General Fund to UNM for Lambda Rail.

**OTHER SUBSTANTIVE ISSUES**

According to LFC files, last year HED proposed implementation of a cost effective pricing strategy that will cover the annual membership fee and the operational costs to promote participation. The pricing strategy is to have affiliates pay a fee according to a proposed fee structure (\$3 thousand to \$75 thousand annually). If an affiliate is also a connector, an organization who provides connectivity to other affiliates, a bandwidth connector fee will be assessed. This approach allows affiliates to pay for the bandwidth level that they need while allowing New Mexico to increase the bandwidth of the NLR backbone connection as needed. UNM’s business plan shows that the majority of its ongoing revenue will come from bandwidth fees. Affiliate members will pay bandwidth charges of \$10 thousand to \$350 thousand annually depending on type and capacity. Annual membership fees and bandwidth fees can be increased with 30-day notice. Expenditures for aggregation points, last mile, network management, or other services outside of base connectivity are extra. Applications for membership will approve

on a case-by-case basis by the board of directors. Use of the LambdaRail will be limited to those members whose use is approved by the board of directors.

## **ALTERNATIVES**

Higher education institutions receive indirect cost revenues from federal contracts and grants. This money is unrestricted in the sense that the governing board of the institution has the flexibility to choose which projects are supported with these funds. A great deal of this money is used as seed money to develop new research and public services projects at institutions. A portion of the indirect cost revenue, or earned overhead, is used to support items such as the salaries of the accountants responsible for monitoring the contracts and grants, or for paying utilities and other expenses required to maintain the space where the contract and grant activities are housed.

The higher education funding formula allows institutions to retain 100% of this indirect cost revenue. One of the purposes of retaining these funds is to provide seed money and matching funds for projects such as the one proposed in this bill.

Request that the \$2.5 million investment by NMSU, NMIMT and GSD be allowed as a property contribution rather than requiring a cash payment.

## **WHAT WILL BE THE CONSEQUENCES OF NOT ENACTING THIS BILL**

The results of not funding this project would be that UNM would lose its seat on the board of directors, its ability to connect to LambdaRail and the \$4 million paid to NLR.

According to the HED, the first year's subscription (in 2004) to LambdaRail did not benefit the state without a continued annual subscription to buy membership which costs \$5 million.

Not providing additional funds will result in loss of a seat on the national board of directors, the state's initial \$3 million general fund investment and the three research universities' \$1 million investment.

## **POSSIBLE QUESTIONS**

How will UNM address continued support if the revenue does not materialize at the proposed levels?

What criteria will the LambdaRail board of directors use to determine whether an entity that does not engage primarily in research gets to be a member?

Can NLR be used for other than research purposes?

Will State agencies have to pay for bandwidth or will in-kind contributions (fiber) and the general fund contributions be used to offset the cost?